

WHAT IS CLAIMED IS:

1. An X-ray mask comprising:  
a mask pattern;  
protection means for forming a dust-proof space  
5 for protecting said mask pattern; and  
a hole for ventilating between the dust-proof  
space and an outer atmosphere.
  
2. An X-ray mask according to claim 1, wherein  
10 said X-ray mask comprises a transmission type mask,  
which comprises an X-ray transparent membrane, on a  
surface of which said mask pattern is formed, and said  
protection means is arranged on at least one of a front  
surface side and a rear surface side of said membrane.  
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3. An X-ray mask according to claim 1, wherein  
said X-ray mask comprises a reflection type mask, in  
which a multilayered film reflection layer and said  
mask pattern are formed on a substrate, and said  
20 protection means is arranged on said mask pattern.
  
4. An X-ray mask according to claim 1, wherein  
said protection member comprises a detachable  
protection member.

5. An X-ray mask according to claim 1, wherein  
said protection member comprises an X-ray transparent  
pellicle film.

5 6. An X-ray mask according to claim 1, wherein  
said protection member is subjected to an antistatic  
treatment.

10 7. An X-ray mask according to claim 1, wherein  
said hole has a lid which is free to open/close.

8. An X-ray mask according to claim 1, wherein  
said hole has a filter.

15 9. An X-ray mask comprising:  
an X-ray transparent membrane;  
a mask pattern formed on a surface of said  
membrane; and  
protection members formed on both a front surface  
20 side and a rear surface side of said membrane and  
forming a dust-proof space.

10. An X-ray mask according to claim 9, wherein  
the protection members are detachable.

25 11. An exposure method comprising the steps of:

preparing an X-ray mask comprising a mask pattern  
and detachable protection means for forming a  
dust-proof space for protecting said mask pattern;

carrying said X-ray mask with said protection  
5 means attached; and

exposing said mask pattern to X-rays while said  
protection means is detached.

12. A device manufacturing method for  
10 manufacturing a microdevice in processes including an  
exposure method of claim 11,

13. An exposure apparatus comprising:

means for holding an X-ray mask of any one of  
15 claims 1 to 10; and  
means for transferring a mask pattern onto a  
substrate by exposing by irradiating X-rays onto said  
X-ray mask.